Procolophonina. In my paper on the postorbital bars of Reptilia (Trans. Amer. Philos. Soc., 1892, p. 16, bottom) I refer to the postorbital bar of the Theriodonta, meaning the Pelycosauria. This is due to the premature assumption by English authors, to which I at the moment assented, that the two groups are identical.—E. D. COPE.

Scott on the Mammalia of the Deep River Beds.[7]—In this handsome memoir of 130 pages we have recorded the results of the Princeton College expedition of 1891. The region explored is the valley of Deep River, one of the upper tributaries of the Missouri in Montana. This formation was observed to contain fossils by Grinnell and Dana in 1875, and was explored by a party sent by the present reviewer in 1878. The latter reported from it twelve species of Mammalia all of which were new except a Prothippus of Loup Fork age, and a Protolabis of uncertain species. The Princeton expedition obtained twenty-two species, of which eight are new to science. Prof. Scott prefers to call this formation by the name of Deep River, rather than the Ticholeptus bed, as it was originally named by Cope. This is because the name Ticholeptus, as a paleontological term, is a synonym of Merychyus. However, as applied to a formation, it was not preoccupied, and it is doubtful whether, under the rules, it can be changed.

The new forms belong to the following orders: Carnivora, 2; Glires, 1; Perissodactyla, 2. Artiodactyla, 3. The most important addition to the Carnivora is a new genus of Canidæ, Desmatocyon, which agrees with Canis, except in the possession of three longitudinal convolutions of the cerebral hemispheres. The Glires are represented by a new Steneofiber. The most important novelties are two species of three-toed horses, which are named respectively *Desmatippus crenidens* and *Anchitherium equinum*, the latter the largest known American species of its genus. Prof. Scott takes occasion to present a new classification of the genera of American three-toed horses, distinguishing four genera in species formerly referred to Anchitherium. These are Mesohippus, Miohippus, Desmatippus (nov.) and Anchitherium. Scott has already shown that Mesohippus differs from the other genera in the absence of pits of the incisors, and he assumes that Miohippus, named but not distinguished by Marsh, possesses those pits, although he states that its upper incisors are not known. I can state that this supposition is perfectly correct, as they are present in the species I have called *Anchi-*

[7] From the Transactions of the American Philosophicel Society, 1894, Vol. XVII, p. 55.

therium equiceps, *A. longicriste* and *A. praestans*, from the John Day Beds of Oregon, the horizon of Miohippus. The separation of Miohippus from Anchitherium is proposed by Prof. Scott, on the relative size of the conules of the molars, on the form of the external face of their external wall, and on the separation or confluence of the posterior transverse crest with the latter. The first two characters do not appear to me to be of generic value, while the third is probably a valid one. On this basis the John Day *Anchitheria equiceps*, *brachylophum*, and *longicriste* must be referred to Miohippus, while *A. praestans* is an Anchitherium. That is, supposing Marsh's type of Miohippus possess the character referred to, which is unknown. The same character will refer Desmathippus to Anchitherium; and the other characters regarded by Prof. Scott as distinguishing the two, do not seem to the reviewer to be of sufficient value to forbid such reference.

The *Anchitherium crenidens* (as we would call it) presents especial interest in the strong crenation of the anterior border of the metaconule, offering the earliest example of this structure known, and pointing to the origin of the similar structure seen in later horses of several genera. In the *A. equinum* we have the American form nearest to the European *A. aurelianeuse*. The American (White River) *A. exoletum* Cope (not *A. cuneatum*, as stated by Scott) has superior molars of similar character.

In the Artiodactyla, the most important discovery is the presence of an ossified thyroid cartilage, and a probable rudimental clavicle in an Oreodontid, which but for these characters would be an Eporeodon. To this form Prof. Scott gives the name of Mesoreodon.

We expect thorough and intelligent work from Prof. Scott, and in this memoir we are not disappointed. It is by papers of this kind that our knowledge of the evolution of organic life is really advanced. The illustrations are every way worthy of the text.—E. D. Cope.

Von Ihring on the Fishes and Mammals of Rio Grande do Sul.[8]—These two brochures are valuable as bringing the subject of which they treat up to a later date than the papers of Hensel, who wrote in 1870–2–9. The species are not all described, and some of the notices embrace descriptions of habits, while the known distribution is given, with pretty full references to the literature. The species of

[8] Die Süsswasser Fische von Rio Grande do Sul; von Dr. H. von Ihring, 12mo, 36 pp.; Rio Grande, Jan. 1893.

Os Mammiferos do Rio Grande do Sol, pelo Dr. Herman von Ihring, 12mo, pp. 30; Rio Grande, Apl. 20, 1892.